APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,440	09/28/2000	RONAK PATEL	114596-29-0125BS	7408

			EXAMINER
38492	7590	03/24/2005	COLEMAN, ERIC

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ART UNIT	PAPER NUMBER
2183	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/672,440	PATEL ET AL.
	Examiner	Art Unit	
	Eric Coleman	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-45_ is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) _1-33_ is/are allowed.
6) ☒ Claim(s) _34-39,44 and 45_ is/are rejected.
7) ☒ Claim(s) _40-43_ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ .

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 34,36,39,44,45 is rejected under 35 U.S.C. 102(b) as being anticipated by

Alpert (patent No. 5,659,679).

3.   Alpert taught (claims 34,36) recognizing an condition including exception

condition, and in response, setting the processor into single-step mode; and taking

single-step exception after executing the second instruction, and setting the processor

out of single-step mode in industry standard processor such as the Pentium (e.g., see

col. 1, line13-col. 2, line 63). Also processor exceptions in processors that perform more

than one task at a time such as the Pentium are well known to include conditions that

affect another instruction such as writing to a location to read by the other instruction.

As per claim 39 instructions that write to registers wherein in one implementation the

data is stored in one or more stacks (e.g., see col. lines 36-52 and col. 5, line 59-col. 6,

line 5).   Further as understood Alpert taught (claim 44) servicing a single-step

exception including querying a debug touch record (e.g., see col. 6, lines 28-40). As per

claim 45 Alpert taught an instruction for writing an interrupt enable flag of the computer

(e.g., see col. 4, lines 21-37).

Claim Rejections - 35 USC § 103

4.   Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alpert as

applied to claim 34 above, and further in view of Ekner (patent No. 6,289,445).

5.   Ekner taught the invention substantially as claimed including a data processing

("DP") system comprising:

a) During execution of an instruction on a computer, in response to an operation

of the instruction calling for an architecturally-visible side-effect in an architecturally-

visible storage location, storing a value (exception token) representative of an

architecturally-visible representation of the side effect, a format of the representative

value being different than architecturally-visible representation of the side effect and

resuming the execution without generating the architecturally-visible side effect (e.g.,

see figs. 6a,6b,7a,7b and col. 3, lines 23-43 and col. 5, line 61-col. 8, line 57 and col.

10, lines 29-53).

6.   Ekner did not expressly detail (claim 35) the later writing of the architecturally-

visible representation corresponding to the representative value into the architecturally

visible storage location. Ekner, however taught later using the exception token for

processing the side-effect or exception and then cleared (e.g., see col. 8, line 48-col.

11). Therefore one of ordinary skill would have been motivated to store a architecturally

visible version of the token information in order for the system to process the exception

routine especially since the exception token was cleared.

7.   Claim 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alpert

as applied to claim 36 above and further in view of Song (patent No. 6,061,711) and

Iyer (patent No. 6,481,007)

8.   Song taught a) Storing a context of a first process and loading a context of a

second process to place the second process into execution, each context comprising a

set of resources to be reloaded whenever a process associated with the context is

reloaded for execution (e.g., see col. 1, lines 12-col. 2, line 60); b) Instructions marked

for execution in the pipeline to indicate whether or not a context switch may be

performed at a boundary of the marked instruction (e.g., see col. 2, lines 47-60 and col.

10 line 7-col. 11, line 63).

9.   Song did not expressly detail (claim 37) that at least some of the instructions a

multi-stage execution pipeline of the computer maintaining results in storage resources

outside the context resource set. Iyer however taught grouping exception handlers

where some execution handlers held a superset execution data of other exception

handlers and therefore data outside the context resource set (e.g., see col. 5, lines 41-

65). This would have allowed for the establishing of a second exception.

10.   It would have been obvious to one of ordinary skill in the DP art to combine the

teachings of Song and Iyer. Both Song and Iyer were directed toward the problems of

performing context switches in a DP system. One of ordinary skill would have been

motivated incorporate the Iyer teachings of providing grouped exception handlers and

maintaining data in groups where one group is superset of another group in order to

allow one process to pass variables to another process area without copying variables

and not affect the processing of third process (e.g., see col. 5, lines 41-67 of Iyer).

Further one or ordinary skill would have been motivated to incorporate the Song and

Iyer teachings into the Alpert system inorder to provide means to process context

switches that were detected in the Alpert system during debugging (e.g., see col. as 5,

line 47-col. 6, line 49).

11.   Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alpert as

applied to claim 36 above and further in view Iyer (patent No. 6,481,007).

12.   Iyer taught (claim 38) recognizing hardware execution of an instruction stream,

recognizing a condition that is a superset of a condition whose occurrence is desired to

be detected, and raising a first exception as a result of recognizing the superset

condition; filtering the superset condition to determine whether the desired condition has

occurred by grouping exception handlers where some execution handlers held a

superset execution data of other exception handlers and therefore data outside the

context resource set (e.g., see col. 5, lines 41-65). This allowed for the establishing of a

second exception.

13.   Further one of ordinary skill would have been motivated to incorporate the Song

and Iyer teachings into the Alpert system in order to provide means to process context

switches that were detected in the Alpert system during debugging (e.g., see col. as 5,

line 47-col. 6, line 49).

Allowable Subject Matter

14.   Claims 40-43 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims.

Claims 1-33 are allowed.

Applicant's arguments filed 11/24/04 (with respect to claims 34-39 and 44-45)

have been fully considered but they are not persuasive.

The rejections of claims 34-39 and 44-45 are hereby maintained as set forth in

the last office action (and repeated above).

In the remarks the applicant argued the limitations of claims 1-33. These claims

are not now rejected. The remarks did not contain arguments with respect to claims (34-

39 and 44-45). The Examiner contends that the references cited in the outstanding

rejections taught the limitations in the claims 34-39 and 44-45.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Eric Coleman whose telephone number is (703) 305-

9674. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Eddie Chan can be reached on (703) 305-9712. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

EC

ERIC COLEMAN
PRIMARY EXAMINER